

CLAIMS

What is Claimed is:

1. An integrated guidance system comprising:
 - a position determination system adapted for determining a current position;
 - 5 a lightbar device adapted for providing a visual representation of a deviation of said current position from a desired path to guide movement along said desired path;
 - a data input device;
 - a display device for displaying text and graphics; and
 - a processor adapted for facilitating user interaction by integrating operation of
 - 10 said position determination system, said lightbar device, said data input device, and said display device.
2. The integrated guidance system as recited in Claim 1 wherein said position determination system comprises:
 - 15 a Global Positioning System (GPS) antenna; and
 - a GPS receiver.
3. The integrated guidance system as recited in Claim 2 wherein said GPS antenna is positioned externally and separately relative to said GPS receiver.
- 20 4. The integrated guidance system as recited in Claim 1 further comprising a housing.

5. The integrated guidance system as recited in Claim 1 wherein said lightbar device comprises a plurality of lights that are adapted to emit a light pattern that indicates said deviation.

5 6. The integrated guidance system as recited in Claim 5 wherein said plurality of lights are spaced apart and are aligned in a row, and wherein said light pattern is formed by selectively illuminating particular ones of said plurality of lights.

7. The integrated guidance system as recited in Claim 5 wherein said
10 plurality of lights comprises a plurality of light emitting diodes (LED's).

8. The integrated guidance system as recited in Claim 1 wherein said data input device comprises a first button, a second button, and a third button.

15 9. The integrated guidance system as recited in Claim 8 wherein said first, second, and third buttons facilitate interacting with a plurality of available functions displayed on said display device.

10. The integrated guidance system as recited in Claim 9 wherein said
20 display device displays said available functions in a menu-driven manner that is user friendly.

11. The integrated guidance system as recited in Claim 1 wherein said display device comprises a liquid crystal display (LCD).

12. An integrated guidance system comprising:
5 a position determination system adapted for determining a current position;
a lightbar device adapted for providing a visual representation of a deviation of
said current position from a desired path to guide movement along said desired path;
a data input device;
a display device for displaying text and graphics; and
10 a user interface system adapted for facilitating user interaction by integrating
operation of said position determination system, said lightbar device, said data input
device, and said display device.

13. The integrated guidance system as recited in Claim 12 wherein said
15 position determination system comprises:
a Global Positioning System (GPS) antenna; and
a GPS receiver.

14. The integrated guidance system as recited in Claim 13 wherein said GPS
20 antenna is positioned externally and separately relative to said GPS receiver.

15. The integrated guidance system as recited in Claim 12 further comprising
a housing.

16. The integrated guidance system as recited in Claim 12 wherein said lightbar device comprises a plurality of lights that are adapted to emit a light pattern that indicates said deviation.

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17. The integrated guidance system as recited in Claim 16 wherein said plurality of lights are spaced apart and are aligned in a row, and wherein said light pattern is formed by selectively illuminating particular ones of said plurality of lights.

10 18. The integrated guidance system as recited in Claim 16 wherein said plurality of lights comprises a plurality of light emitting diodes (LED's).

19. The integrated guidance system as recited in Claim 12 wherein said user interface system comprises:

15 a processor; and
processor-executable instructions for implementing a user interface.

20. The integrated guidance system as recited in Claim 12 wherein said data input device comprises a first button, a second button, and a third button.

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21. The integrated guidance system as recited in Claim 20 wherein said user interface system displays a plurality of available functions on said display device.

22. The integrated guidance system as recited in Claim 21 wherein said first, second, and third buttons facilitate interacting with said plurality of available functions.

23. The integrated guidance system as recited in Claim 21 wherein said user interface system displays on said display device said available functions in a menu-driven manner that is user friendly.

24. The integrated guidance system as recited in Claim 12 wherein said display device comprises a liquid crystal display (LCD).

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25. A method of interacting with a guidance system, said method comprising: displaying on a display device of said guidance system a plurality of available functions in a menu-driven manner that is user friendly, wherein said display device display is adapted for displaying text and graphics; and

15 providing said guidance system a data input device adapted for accessing and interacting with any one of said available functions with a minimum number of inputs and with minimum use of said inputs.

26. The method as recited in Claim 25 wherein said data input device comprises a first input, a second input, and a third input.

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27. The method as recited in Claim 26 said first, second, and third inputs are buttons.

28. The method as recited in Claim 25 wherein said guidance system further comprises:

a position determination system adapted for determining a current position; and

5 a lightbar device adapted for providing a visual representation of a deviation of said current position from a desired path to guide movement along said desired path.

29. The method as recited in Claim 28 wherein said position determination system comprises:

10 a Global Positioning System (GPS) antenna; and
a GPS receiver.

30. The method as recited in Claim 29 wherein said GPS antenna is positioned externally and separately relative to said GPS receiver.

15 31. The method as recited in Claim 28 wherein said guidance system further comprises a housing.

32. The method as recited in Claim 28 wherein said lightbar device comprises
20 a plurality of lights that are adapted to emit a light pattern that indicates said deviation.

33. The method as recited in Claim 32 wherein said plurality of lights are spaced apart and are aligned in a row, and wherein said light pattern is formed by selectively illuminating particular ones of said plurality of lights.

5 34. The method as recited in Claim 32 wherein said plurality of lights comprises a plurality of light emitting diodes (LED's).

35. The method as recited in Claim 25 wherein said display device comprises a liquid crystal display (LCD).

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